PETITION FEE Under 37 CFR 1.17(f), (g) & (h) **TRANSMITTAL** (Fees are subject to annual revision) **Send completed form to: Commissioner for Patents** **P.O. Box 1450, Alexandria, VA 22313-1450**		
Application Number		10/801,720
Filing Date		**March 17, 2004**
First Named Inventor		**K. SHIGA, et al**
Art Unit		
Examiner Name		
Attorney Docket Number		501.43680X00

(Stamp: OIPE JAN 27 2005 PATENT & TRADEMARK)
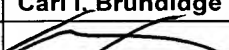
Enclosed is a petition filed under <u>37 CFR 1.17(h)</u> that requires a processing fee (37 CFR 1.17(f), (g), or (h)). Payment of
$ <u>130.00</u> is enclosed.

 This form should be included with the above-mentioned petition and faxed or mailed to the Office using the appropriate Mail Stop (e.g., Mail Stop Petition), if applicable. For transmittal of processing fees under 37 CFR 1.17(i), see form PTO/SB/17i.

Payment of Fees (small entity amounts are NOT available for the petition (fees))

☒ The Commissioner is hereby authorized to charge the following fees to Deposit Account No. <u>50-1417:</u>

 ☐ petition fee under 37 CFR 1.17(f), (g) or (h) ☒ any deficiency of fees and credit of any overpayments
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Petition Fees under 37 CFR 1.17(f): Fee $400 Fee Code 1462
For petitions filed under:
§ 1.53(e) - to accord a filing date.
§ 1.57(a) - to according a filing date.
§ 1.182 – for decision on a question not specifically provided for.
§ 1.183 – to suspend the rules.
§ 1.378(e) for reconsideration of decision on petition refusing to accept delayed payment of maintenance fee in an expired patent.
§ 1.741(b) – to accord a filing date to an application under §1.740 for extension of a patent term.

Petition Fees under 37 CFR 1.17(g): Fee $200 Fee code 1463
For petitions filed under:
§1.12 - for access to an assignment record.
§1.14 - for access to an application.
§1.47 - for filing by other than all the inventors or a person not the inventor.
§1.59 - for expungement of information.
§1.103(a) - to suspend action in an application.
§1.136(b) - for review of a request for extension of time when the provisions of section 1.136(a) are not available.
§1.295 - for review of refusal to publish a statutory invention registration.
§1.296 - to withdraw a request for publication of a statutory invention registration filed on or after the date the notice of intent to publish issued.
§1.377 – for review of decision refusing to accept and record payment of a maintenance fee filed prior to expiration of a patent.
§1.550(c) – for patent owner requests for extension of time in <u>ex parte</u> reexamination proceedings.
§1.956 – for patent owner requests for extension of time in <u>inter partes</u> reexamination proceedings.
§ 5.12 – for expedited handling of a foreign filing license.
§ 5.15 – for changing the scope of a license.
§ 5.25 – for retroactive license.

Petition Fees under 37 CFR 1.17(h): Fee $130 Fee Code 1464
For petitions filed under:
§1.19(g) – to request documents in a form other than that provided in this part.
§1.84 – for accepting color drawings or photographs.
§1.91 – for entry of a model or exhibit.
§1.102(d) – to make an application special.
§1.138(c) – to expressly abandon an application to avoid publication.
§1.313 – to withdraw an application from issue.
§1.314 – to defer issuance of a patent.

Name (Print/Type)	**Carl I. Brundidge**	*Registration No. (Attorney/Agent)*	**29,621**
Signature		*Date*	January 27, 2005

501.43680X00

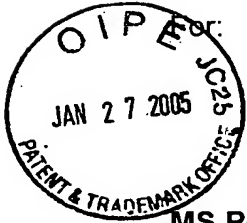# IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants: K. SHIGA, et al

Serial No.:   10/801,720

Filed: March 17, 2004

For: PATH CONTROL METHOD

PETITION TO MAKE SPECIAL
UNDER 37 CFR 1.102(d) and MPEP. §708.02, VIII

MS Petition
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

January 27, 2005

Sir:

1. Petition

Applicants hereby petition to make this application **Special**, in accordance with 37 CFR §1.102(d) and MPEP 708.02, VIII. The present invention is a new application filed in the United States Patent and Trademark Office on March 17, 2004 and as such has not received any examination by the Examiner.

2. Claims

Applicants hereby represent that all the claims in the present application are directed to a single invention. If upon examination it is determined that all the claims presented are not directed to a single invention, Applicants will make an election without traverse as a prerequisite to the granting of special status.

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3. Search

Applicants hereby submit that a pre-examination search, a copy of which is attached, has been made by a professional searcher.

The field of search covered:

Class Subclasses
711 112, 113,114 and 147
714 4

Additionally, a computer database search was conducted on the USPTO systems EAST and WEST and a literature search was also conducted on the Internet for relevant non-patent documents and a search for foreign patent documents on the Espacenet and Delphion databases. Examiner Denise Tran in Class 711 (Art Unit 2186) was consulted in confirming the field of search.

4. Copy of References

A listing of all references found by the professional searcher is provided by a Form PTO-1449 and copies of the references and the Form PTO-1449 were submitted as part of an Information Disclosure Statement (IDS) filed on October 6, 2004. A copy of said October 6, 2004 Information Disclosure Statement along with the Search Report without the references is attached herewith.

5. Detailed Discussion of the References and Distinctions Between the References and the Claims

Below is a discussion of the references uncovered by the search and cited in the IDS filed on October 6, 2004 (copy attached) that appear to be most closely related to the subject matter encompassed by the claims of the present application, and which discussion particularly points out how Applicants' claimed subject matter

is distinguishable over those references. All other references uncovered by the search and cited in the IDS filed on October 6, 2004 (copy attached) are **not** treated in detail herein.

a. Detailed Discussion of the References

Lee (U. S. Patent N. 5,726,977) shows an apparatus and method for determining a network node congestion state in order to control the congestion, having switching and path establishment device and congestion state discrimination device, (Fig 1). It further shows a device that apply path information to control switching path establishment and also capable of determining the congestion state. See col. 4, lines 20-22 & 33.

Obara et al (U.S. Patent No 6,625,691) shows a storage subsystem including plurality of disk controllers, path controller and disk interface. It further shows path switching processor with load balancing. See col. 3, lines 29+.

Fujimoto (U.S. Patent Application Publication No. 2003/0182516) shows a storage system comprising, an interface unit, first, second and third connection units, a switch for connecting the channel interface, and channel interface units executing data transfer between the interfaces. See col. 15.

Horn et al (U.S. Patent Application Publication No. 2004/0034751) shows a load balancing for storage volumes, having a network storage system controller, a processor, first, second, third and fourth path, first, second and third storage devices.

Kanai et al (U.S. Patent Application Publication No. 2004/0123028) shows a storage control apparatus, transmitting acquired data through dedicated data transfer path to other channel control unit and receiving from the other channel control unit

an acknowledgement notifying the writing of the transmitted data. See col. 4.

Ido et al (U.S. Patent Application Publication No. 2004/0128453) shows a storage system. It further shows a system comprising a first storage, a second storage; plurality of control unit, plurality of connections and a first, second and third path through which data is transferred between the connection and the devices.

Ogura et al (JP No. 56129456) shows a path control method. It further shows a relay station making packet exchange in a network having a plurality of paths to one terminal station, detecting the production of a failure by receiving no response to transmission information and changing the path table (abstract).

Uchiyama et al (U.S. Patent No. 6,408,358) shows a storage control unit, means of providing plurality of access paths between a control unit and storage unit. 6,757,291 (Hu) shows a device having a control unit, a management unit, a switching unit, an interface, a storage and load balancing function between a network and storage. 2004/0024870 (Hirata et al.) shows a storage network system, having path switching function, bottleneck analyzing function, path switching judging function, storage apparatus, and management agent.

b.   Distinctions Between the References and the Claims

The present invention as recited in the claims is not taught or suggested by any of the above noted references whether taken individually or in combination with each other or in combination with any of the other references now of record.

The present invention as recited in the claims is directed to a system having a plurality of devices and a storage device. According to the present invention, the system includes a first device, a second device, a plurality of paths each connected

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to first device and the second device and a third device which is connected to the first device. As recited in the claims, the first device transfers data to the second device using the paths at a predetermined ratio and the third device detects congestion of the paths and notifies the first device of the congestion. Based on the notification, the first device changes the predetermined ratio among the paths so as to transfer the data to the second device using the paths in a ratio.

Further, according to the present invention, the storage system includes a control unit, a disk device connected to the control unit and an interface connected to a network and to other devices by a plurality of paths in the network.

According to the present invention, the control unit of the storage system sends data stored in the disk device as a packet to other devices using the paths at a predetermined ratio and when an acknowledgement sent to other devices has not been received for a fixed period, the control unit judges that congestion has occurred in the paths. The control unit based upon the occurrence of the congestion changes the predetermined ratio among the paths and performs packet transfer to other devices at the changed ratio among the paths.

The above described features of the present invention as recited in the claims are not taught or suggested by any of the references of record whether taken individually or in combination with each other. Particularly, the above described features of the present invention are not taught or suggested by any of the above described references or any of the other references of record.

For example, the above described features of the present invention are not taught or suggested by Lee. As described above, Lee discloses an apparatus and method for determining a network node congestion state so as to minimize the effect

of the congestion by providing a switching and path establishment device and a congestion state discrimination device that applies information to the control switching path establishment device. The above described features taught by Lee do not anticipate nor render obvious the features of the present invention as recited in the claims. Particularly, the features of the present invention as recited in the claims provides that the first device or the control unit transfers data to another device using the paths at a predetermined ratio and that a congestion is detected due to, for example, non-receipt of an acknowledgement for the transfer of data and that information regarding the congestion is notified. The first device and the control unit upon being notified of the congestion performs packet transfer to the other devices at a changed ratio of the paths. Such features are clearly not taught or suggested by Lee or any of the other described references described above or the other references of record whether taken individually or in combination with each other.

The above described deficiencies of Lee are also evident in each of the other references described above and the other references of record. Therefore, combining Lee with one or more of the above described references or any of the other references of record would still fail to teach or suggest the present invention as now more clearly recited in the claims.

Accordingly, the present invention as recited in the claims are patentable over the above described references and the other references of record.

6.   Fee (37 C.F.R. 1.17(i))

The fee required by 37 C.F.R. § 1.17(i) is to be paid by:

[X]   the Credit Card Payment Form (attached) for $130.00.

[   ]   charging Account _____ the sum of $130.00.

A duplicate of this petition is attached.

Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, or credit any overpayment of fees, to the deposit account of MATTINGLY, STANGER, MALUR & BRUNDIDGE, P.C., Deposit Account No. 50-1417 (501.43680X00).

Respectfully submitted,

MATTINGLY, STANGER, MALUR & BRUNDIDGE, P.C.

Carl I. Brundidge
Registration No. 29,621

CIB/jdc
Enclosures
(703) 684-1120

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